

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number  
**WO 2005/058136 A3**

(51) International Patent Classification<sup>7</sup>: **A61B 3/00**

(21) International Application Number:  
PCT/US2004/041694

(22) International Filing Date:  
13 December 2004 (13.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/529,357 12 December 2003 (12.12.2003) US

(71) Applicant (for all designated States except US): **INDIANA UNIVERSITY RESEARCH AND TECHNOLOGY CORPORATION** [US/US]; 351 W. 10th Street, Indianapolis, IN 46202 (US).

(72) Inventors; and  
(75) Inventors/Applicants (for US only): **THIBOS, Larry, N.**

[US/US]; 1809 Windsor Dr., Bloomington, IN 47401 (US). **APPLEGATE, Raymond, A.** [US/US]; 3507 Lost Lake, Kingwood, TX 77339 (US). **BRADLEY, Arthur** [US/US]; 1735 Durham Lane, Bloomington, IN 47401 (US).

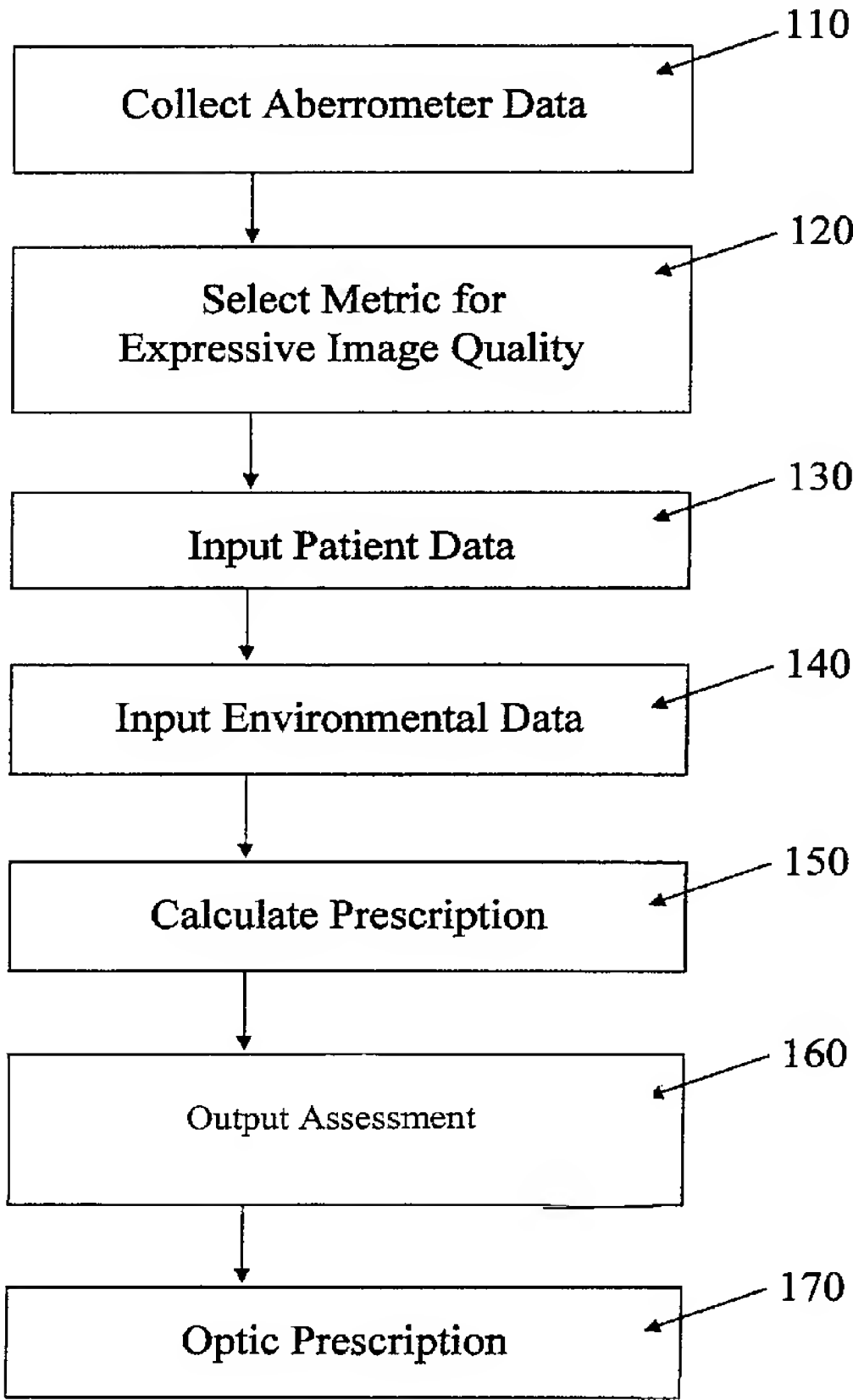
(74) Agent: **GRIDLEY, Doreen, J.**; Ice Miller, One American Square, Box 82001, Indianapolis, IN 46282-0200 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR OPTIMIZING CLINICAL OPTIC PRESCRIPTIONS



(57) Abstract: An method and system for determining the appropriate refractive prescription in a clinical optometry or ophthalmology setting. Data in the form of aberrometric input, patient history and other information, and/or other environmental data is used to optimize a real-world prescription for an individual's optic needs through the use of a equivalent quadratic fitting calculation or a simulated through focus experiment.

WO 2005/058136 A3



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**

20 October 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*